

Note Book
Aug. 15 - Sept. 14 - 1929

Japan.

W. J. Morse

Not noted

Aug. 1891

3/16

1891

Finished

Kucanemū - Aeschynomene
Kawaragetsumei - ^{indica}
(Cassia ⁴minisalis)

$$\begin{array}{r} 2660 \\ 2325 \\ \hline 2790 \\ 95 \\ \hline 465 \end{array}$$

4675
 Find B.L.
 Find S.L.
 Find B.
 Find B-S.L.
 Find L

Makomanai 真駒内

Thursday, Aug. 15, 1929.

Hot & cloudy. In morning went
to American consulate but
no mail, Went to office for
supplies for trip. Went to
Japan Tourist Bureau for
tickets to Hakaido.

Hers (2nd C) - bore to Sapporo
" express to Asahikawa

Overnight Hers - Asahikawa \$ 50

Express Hakodate to Sapporo
Overnight. " " " 5 00

In afternoon wrote official
correspondence - Cleary, Carter,
and Peters.

Finished packing trunk
also arranged for transfer
of trunks to Herio Sta. After
supper, hotel porter gave
bill of 2.50 for transfer of

luggage from hotel to Ueno
Sta.

Left at 9.30 P.M. by taxi
for Ueno Sta. and arrived
about 9.55 where a porter
took our luggage to our
berths.

Left at 10.30 P.M. for
Hokkaido

Friday, Aug. 16, 1929.

Arose about 7:10 A.M. It
was raining and had been
raining most of the night.
Passed through extensive
rice sections, and the rice
for the most part was in
full head. Many different
varieties were noted as we
passed along.

Had breakfast about 7:45 A.M.

Toast and butter.

Oatmeal and milk.

Fried ham and eggs.

Peaches, bananas, pears.

Coffee or tea.

Breakfast each _____, 90

Kindgen was noted all
along the railroad right of
way and in thickets in the
adjoining fields. It was some

places, hedges was very thick
covering the shrubs and was
loaded with flowers in full
bloom.

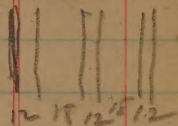
Soybeans were also noted
all along the way. In some
sections the beans were being
grown quite extensively
and looked very nicely.
In some sections the
boundaries were all planted
to soybeans and were from
30-42 in. high. The sides of the
saddling patches were having
nothing in the middle and
soybeans all around the
edges and were not so far
above the water. In some
sections passed through
no beans were being

grown around the edges
of the paddies.

Kudzu was noted
especially abundant before
arriving at Hamanaki at
about 10.50 A.M. From
about 9.50 to 10.50 the kudzu
was noted especially thick
in places and very many
blossoms on the vines.

In some fields soybeans
were planted in double rows
that is two rows about 12
in. apart and these two
rows about 18 in. from
the next two rows.

In the northern
part of the main
island, Hondo, soybeans
and millet were noted
occasionally. The millet



about 3' 1/2 - 4 ft. high, was
planted in 24 in. rows and
soybeans in between the
millet rows. The soybeans
were about 18-24 in. high
and looked as though they
might be in bloom. The
millet (apparently German
or Hungarian) was in full
bloom and the heads brown.

In the northern part of the
island, ^a considerable number
of millet fields were noted,
nearly all of Hungarian or
German variety. This millet
planted at different dates
was in rows 18-24 in. apart
and just after soybeans
in between the millet
rows.

It was noted as we proceeded northward that Kudzu was not nearly so abundant and the growth not so rank.

Considerable red clover fully mature was noted at different places along the line from about 12.30 until about 2.30.

Vetch - rank growth and in full bloom was noted all along the line since early morning but from 10 A.M. ~~was~~ the vetch was seen in quite large quantities at different intervals.

Had dinner on the diner about 12.30. Rolls & butter, fish and tomato ^{and cucumber} salad, chicken with tomato rice and fried onions, tomato salad.

coffee or tea, and peaches
or pears - Tiffin each \$1.20.

Occasionally in the prefecture
of Romorin a field of buck-
wheat was observed but in
all very few.

We arrived in Romorin
4.35 P.M. and went up
stairs in the ferry building
which is connected with
the railroad station.

While waiting for the
boat we looked about the
various stands on the
ground floor of the rail-
road station and ferry
building. Numerous
very fine products done
up in attractive packages
were noted. Sugared

sayberries in boxes and small sacks predominated. There was an abundance of apples of different kinds but for the most part looked rather green. A man at one of the stands gave us a taste and we found that they were far from ripe.

We went on the ferry steamer about 5.15 P.M. and the boat left at 5.30 P.M. We arrived at Hakodate at 10.10 P.M. and left on the Sapporo sleeper at 11. P.M. I found that my lower berth had been sold also to a Japanese but as I had ordered a berth previous to this I was given the berth. The train was crowded, even all the 1st C. berths being taken.

~~Saturday~~
~~Friday~~ Aug. 17, 1929.

Awoke about 5 A.M. It was raining slightly and the country looked as though it had rained very hard during the night.

Clats were noticed in considerable quantity thru the country. For the most part they were cut and put in small stacks capped with small bundles.

Many apple orchards were noted the way and in all cases the apples were bagged. The orchards seemed to be well taken care of.

Lilies of the orange type were seen in the fields and in the farm gardens. These seemed to be the same as the orange

we saw all yesterday afternoon
in the northern part of the main
island.

Many fine soybean
fields were noticed on
both sides of the track. The
beans were all planted
in rows - about 25 in.
apart - The plants for the
most part ran about
36 in. high, and the fields
had an excellent appearance.

Along the railroad
many grape vines were
noticed. Considerable red
clover was also noticed
at different places and
appeared to have mature
seed.

Japanese bush clover,
Lespedeza sp. was noted
in fair abundance and

was in full bloom,

Arrived at Sapporo at 7:55
A.M. and went directly to
the Yamagataya Inn,
where we engaged the same
room we had in May of
this year.

In the afternoon worked
on Hokkaido Exped. Station
notes and maps.

Sapporo, Japan
Sunday, Aug. 18, 1929.

Seed nursery in Botanico Garden.

- 1 - *Vaccinium smallii* - R ✓
- 2 - *Rhododendron albrechtii* -
- 3 - *Vaccinium ciliatum*
- 4 - *Rhododendron brachycarpum*
- 5 - *Photinia villosa*
- 6 - *Symplocos crataegoides* ✓
- 7 - *Styrax japonicum*
- 8 - *Viburnum pubinerve*
- 9 - *Sorbus aucuparia*
- 10 - *Brunus serotina*
- 11 - *Physocarpus opulifolius* R
- 12 - *Corallaria majalis* - variegated
- 13 - *Lilium tigrinum* - double fl.
- 14 - *Althaea* sp. double yellow
- 15 - " sp. " white
- 16 - " " " red
- 17 - *Lilium davuricum*
blue obs. var. called campanulata
- 18 - *Platycodon grandiflorum*
- 19 - *Lonicera* sp. yellow fruit - R
- 20 - *Pierasma Inaeioides* R

- form *inspidum*
- 21- *Viburnum dilatatum* -
22- *Sambucus* sp. (kind)
23- *Vaccinium prostratum*
24- *Rhododendron glaberr.*
near *Rhododendron aburatsubo*
25- *Acer japonicum*. 1885 spec.
26- *Fritillaria camchaticensis*

It had rained very hard during the night and when we awoke this morn. was cloudy and rained at intervals all during the day. Rather high winds. Quite cool.

After return from the Botanic Garden about noon had light lunch at the inn. Spent time in the P. M. looking up notes on Hokkaido exp. Stations, crops, etc.

Monday, Aug. 19, 1929.

Sansone, Japan

Cool - partly cloudy. After breakfast we went to the Botanic Garden and met the Superintendent, Mr. who took us all about the gardens and grounds. Notes were taken on various things of which seed was desired and Mr. assured us that seed samples would be given us.

It was found that Dr. Ho was out of town and would not be back until the 22nd.

We returned to the hotel about 12, and had lunch.

After lunch we went out to Maruyama Park where we saw the Cherry Blossom Festival was celebrated the last week of May

The time of our visit in the spring. On a hillside in the Park I found some Kudzu plants climbing over some shrubs. The Kudzu was in bloom and some spikes had pods on. The flowers seemed to set pods very well, much better than in some places where we have observed Kudzu in bloom.

Seed of *Alnus* (red) was gathered in the Botanic Garden in the morning, and also along the roadside in Maruyama Park in the P.M. A species of small bush *Aspedeza*, about 24-30 in. high, was found in fair abundance in Maruyama park. It was

much woody like *L. sericea*.
but was full of deep reddish
pink bloom and in some
cases, mature pods quite
large - were found but had
shattered the seeds. Four or five
pods with seeds were secured.

A survey was made of the
park and numerous things
gathered. The vining *Hydrangea*
was noted in abundance.

Bush clover (*Lespedeza*) was
noted here and there but
was just coming in bloom.

Shower occurred during
the day.

Evening quite cool.
Car fare to Mammoth Park
and return

Sapporo, Japan.

Tuesday, Aug. 20, 1929

Morning - cool and clear.

Went to Imperial College of Agr.
where we met Dr. Miyabe who was
a pupil of Dr. W. P. Brooks of Amherst
Coll. Mass. Also met Prof. Hoshino
in charge of farms which have an
area of 150,000 acres which are
run under the tenant system
and are quite a source of
revenue to the University.

Dr. Miyabe took us to visit
Dr. Sato, President of the Imp.
Univ. of Hokkaido. who also was
a pupil of Dr. W. P. Brooks.

We were advised by Dr. Sato
that Katsurichi was the center
of soy bean production of
Hokkaido.

Sapporo, Japan.
Animal Fair.

Horses

Sheep

Forage Products for horses

Baled wild hay

Baled Timothy

Baled orchard grass

Silage: Soybean oil meal in silage

Varieties of oats

Brundles of plant

Seed in pans

Grasses & legumes (brundles)

Alfalfa

Orchard hay

Red top

Tall cut grass

Blue grass

Rye grass

Timothy

Orchard grass

Grass mixtures - and Timothy

Red clover

The animal show was
very good. The cattle on ex-
hibit were nearly all of the
Holstein breed. only two pairs
being of the Ayrshire breed.
Some very excellent specimens
were noted of milch cows
and bulls, and 2-yr. olds.
There were about 40 pairs
of sheep and for the most
part were very good
specimens.

Grains for use as horse feeds.

Soybeans.

Rye

Corn

Wheat

Bean cake

Bran

Clats

Sea weed.

Rules of feeding

Timothy & clover

Alfalfa - appears to be
a hardy strain.

Products -

Condensed milk - small brands.

Butter

Canned butter.

Package butter.

Powdered milk

Pork products -

Hams, bacon, sausage.

Polynia.

Sterilized Homogenized Cream
Evaporated milk, canned
Cheese, cactus

Wool-products

Grades of wool.

Woolen cloth,

" yarn.

Silo & model dairy barn.

Supper Wednesday, Aug. 21, 1929.

Cloudy and cool. Mr. Yvon called on phone about 8. A.M. advising that our official trunks had been delivered and were being placed in the room.

After breakfast went to Yamato Seed Co. to see our office room. Dorrell & Saytake were out buying lumber. After their return we made a working bench and shelves. We then removed the stuff from the trunks and put on the shelves.

After lunch went back to the room where had mail from Mr. Clapp and the May Expense check (\$16.69),

In afternoon wrote some letters, worked on the seed.

Samples collected and
read up on Hokkaido
No rain during the
day.

In the way to the office
saw a woman vegetable
peddler who had several
bundles of green vegetable
soybeans on the cart
among the vegetables.

559

847

Sapporo, Japan

Thursday, Aug. 22, 1929,

Bright and clear in the morn.

Left Sapporo - 10.06 A.M. -

arr. Kotoni - 10.18 A.M. -

Alfalfa -

Rocheria corniculata ^{two} yellow fls.

Very abundant growth. Looks like

looks like good forage or green
manure. Lotus corniculatus

Sweet clover - 70-12 ft. tall.

Same end for seed. Seeding
very abundantly.

Saccalis clover -

* 80-81 - Egyptian clover

Trifolium alexandrinum -

white fls.

Red clover = From various sources.

Sweet clover - Many rows.

Alfalfa - Different strains
variegated - some blue and

Green manures

Serradella

Lupine - 3 kinds.

Bur clover -

Crocea

6385 (wild legume) high ground

6377 - (wild legume) - riverbank.

Ornamental clover -

Goats Rue -

Korean Lespedeza (Sudanian)

Japan clover -

Dahlea -

Soybean Fertilizer experiment

with soybeans - **Brick Boxes**

24 x 24 sunk in ground

about 3 in. thick - brick covered

with cement. Sunk in ground

where ^{corn} 3 seed

1 - check -

Ammonium sulfate

15 kils for hectare

- 3- Ammonium Sulfate
30 kilos per hectare
- 4- ~~Ammonium~~ Sulfate
45 kilos per hectare
- 5- Chile sulfate
15 kilos per hectare
- 6- Chile sulfate
30 kilos per hectare
- 7- Chile sulfate
45 kilos per hectare
- 8- Nyoso
15 kilos per hectare
- 9- Nyoso
30 kilos per hectare
10. Nyoso
45 kilos per hectare
11. Stable manure
60 Kilo per hectare
- 12- Stable manure animal - 45 kilo
Ammonium sulfa - 15 "
- 13- Stable manure - NH_3 30 "
Am. sulfate 30 "

kilo

14 - Stable manure NH_3 15
Annum. sulfate 45

15 - check -

15 - Soybean cake NH_3 15
Annum sulfate 15

Test of Lima beans - for
suitability to Hokkaido conditions

Introduced 23 years ago
(1906) from states - Sapporo's
Dwarf Lima - Bush &
Early maturing.

Lima bacteria culture

Soybean variety test.

Cyathia variety one of their
best

Wild yams - Varies according
to place - 1' 7" to 8" - Japanese meas.
1' 5"

In warmer locations

The rows are planted
4 or 5 in. wider than
above means.

Space between plants - 4-6
in. depending on variety according
to variety.

Rate of planting.

$$340 \times 6 \div 120 = 17 = \frac{1}{10} \text{ hectare}$$

6 also for $\frac{1}{4}$ acre

(2 plants at row every 4 in.
in variety test).

Smooth test varieties.

Green mame varieties of
suzukane - Dark brown. ^{Chamame}

Grain varieties test. ^{Ukagai.}

Experiment to find length of
time from time of blossoming
to maturity of pods.

Grain - var. Tsurumoko.

In Hokkaido - farmers use
acid phosphate - 15 kilos
to quarter of acre.

Method of planting - All by
hand - Make a straight
line 2 or 3 in. deep and
beans scattered ahead and
covered with feet as planter
goes along.

Seed desired -

Flax varieties.

Rice varieties.

Red clover varieties.

Field pea varieties

Soybean varieties

Smooth -

Green mame

grain

Green vegetable.

Sweet clover

Korean Lespedeza -

Japan Lespedeza -

Trifolium alexandrinum

Wild legume - 6385,

" " - 6377,

Experiments

Green manure crops.

Sugar beets

Field peas

White Potatoes - breeding,

Tobacco

Flax - breeding

Soy bean - breeding

Field Peas - breeding

Red clover - different sources

Alfalfa - ..

Sweet clover -

Rice - dry land
paddy

Oats - breeding.

Wheat - ..

Barley - "

We were shown about
the station by Mr. Tambo

who is in charge of sugar
bred investigations. The
principal lines of work
with sugar cane are:

- 1- Breeding of strains resistant
to leaf-spot disease. The
station has developed one
variety resistant to this
disease which also has a
high sugar content and
high yields.
- 2- High seed yielding strains.
One variety with high seed
yield - 20 bushels per acre -
is now handled by two
sugar mills in the Takachi
region. These mills have
this season 1000 bushels
each of this seed which they
planted out with the farmers.

3- Investigations with
sugar beets are also being
conducted for high sugar
and high yield.

Rice: Considerable areas are
given to rice varieties both
paddy and dryland. The
paddies are laid out in
excellent shape and the
varieties in the plots give
a very pleasing effect.

Soy Bean variety test.

From 40 to 50 varieties
are being grown in the
grain and green
manure variety tests.
In the grain varieties
some very excellent
strains were noticed.
Some excellent smooth
strains of late maturity
were noted.

Sapporo, Japan.

Friday, Aug. 23, 1929.

Clear and cool. - Mailed registered letter to N. Y. Bank - Tokyo with May exp. check (416.69).

Went to office about 9.30 A.M. and spent most of the morning in writing up notes taken yesterday at the Kotoiri Experiment Sta. Sent official mail.

Official postage 40

After lunch came back to the hotel and wrote official correspondence. Wrote to Cox submitting items suspended in May account. Also wrote Joe Mahoney.

Rained a little in the afternoon.

Saturday, Aug. 24/1929.

Sapporo, Japan.

Left Sapporo at 10.21.

Ar. Shiroishi 10.35

Fare - 10 sen

" Kotoni 08 "

We were met at the
Shiroishi station by Mr.
Whom I met
when here in May. He
took us at once to
his gardens. Here he
showed us 16 varieties
of lilies which he was
growing for the bulbs.
The names were taken
and orders placed for
a certain number of
each. He said that he
could obtain about 14
more varieties and

said that they could be
delivered by the middle
of September.

We were then taken to
another farm where Mr.

had different
varieties of lilies grown
in quantity. Here we
found the double tiger lily.

After looking over the
lilies we went back to
the Shiroishi station and
ate our lunch. We then
walked down the rail-
road botanizing. Fruit
of the large raspberry
was found. Seed of
another catch was also
obtained. Seed of red clover
plants was gathered from
plants along the way.

Two many herbarium

specimens were gathered
On our way back it
began to rain and we
had to stop in a farmer's
shed where the farmer's
wife was bundling up
Turdock roots for the
market.

Mr
Official postage

Sunday. Aug. 25, 1929,

Bright and clear in the morning. After breakfast went to office and wrote up seed samples. Afterwards came back to hotel and worked on soybean notes. Wrote official correspondence. Sent letter to American Consul. 16

Rained hard during the afternoon. About 5 P.M. went to Japanese movie. 60 sen each and 30 sen for Margaret. On the way back bought some roasted ears of golden Chantam corn from woman at the corner of the public square. We saw a number of women and boys along

the street and on the
Ginza selling roasted
ears of corn and also
boiled or cooked corn on the
cob. The corn is roasted
over charcoal which is
continually fanned
the corn kept turned.
It is very good and
much like our roast
corn on hot coals.

Monday, Aug. 26, 1929.

Cloudy and cool. In the morning went to call on Dr. ~~Dr.~~ Director of the Botanic Garden with regard to collecting seed and plants from the garden. Then went to call on the Forester Mr. to get permission to botanize in Hokkaido. He also advised that we visit the police department to advise them of our intentions.

After lunch we returned to the Botanic Garden where we met Dr. ~~Dr.~~ and he took us about the Garden to see what we desired.

After going about we left

to gather seed that was
mature. Seed gathered

Aquilegia spp.

Leptium spp.

Sambucus spp.

Lonicera spp.

Wild legume

Lonicera spp.

Dr. Ito's assistant
advised us he would go
botanizing with us
tomorrow.

Tuesday, Aug. 27, 1929.
Cool, raining. Rained very
hard all during the
night. The rain let up
about 9.30 A.M. Then
went to office and
wrote up notes on the
seed collected yesterday
at the Sapporo Botanic
Garden.

On the way to the office
in the office in the
morning, Edna stopped
at a store to get some
plum oil and in the store
noticed cans of soy bean
salad oil.

In the afternoon went
back to the hotel and
wrote some official
correspondence to Laird.

In the evening went
on the ginsu and in the
way back saw a store
show window with cans
and boxes and soybeans
spread with labeling
as to soybean products.
showed the cans to have
roasted soybeans covered
with seaweed. The boxes
contained sugar or rather
candied roasted soybeans.
2 cans of the seaweed.

soybeans was purchased for <u>45</u> <u>sen</u> each	,90
Paper —	,90

Wednesday Aug. 28, 1929

Cloudy and cool in the morning. At 9.15 we left by bus for Mt. Moiwagama to botanize. We took a trail which led up to a shrine and from there struck the trail which led up the mountain. We found a shrubby tree with light smooth grey bark, quite different from anything we have seen before. The fruit was black and somewhat astringent. A small amount of seed was obtained. As we reached about 500 ft. elevation we came upon quite a patch of Kudzu which covered all the bushes

and underneath, it
was in full flower. As
we descended by another
trail we came upon
two or three other patches
of Kudzu which had lots
of bloom and we found
many racemes full
of pods. These should
have mature seed some
time in September.
Along the up trail we
came across *Desmodium*

which is said to be
grown for green manure.
The plants were full of
pods and no doubt
seed will be ripe about
the middle of September.

Red clover was found
growing in abundance
all along and on the
mountain tops as were
timothy and orchard
grass. In our trips
about Suoporo we have
found red clover, white
clover, timothy, and
orchard grass growing
abundantly. The small
bamboo was growing
all over the mountain.
We did not go to the
highest point of Mt.
Moivayama which is
1700 feet high. While
near the top it began
to rain quite hard.
Excellent views could
be obtained from the
various mountain

ridges which we crossed,
of the valley in which
Sapporo lies for many
miles up and down.

No lilies were observed
except one plant of *Lilium*
Glehnii which had
several large seed pods
on it.

In descending we
came across an excellent
meadow of ~~timothy~~ orchard
grass, and red clover.

The orchard grass heads
had evidently been cut
for seed. The meadow
was on a very steep
hillside. In going up
we saw quite a trend

of Holsteins pasturing
in quite a good sized
pasture. He also ran
a small farm which
had a fairly good dairy
farm and also a cement
silo attached to the barn.

We descended to a
place where there were hot
springs and a large
public bath-house. Near
here we took a car for the
office. Reached there about
5 P.M. where we wrote
up plant and seed
selections.

Bus fare to Mt. Moi	-	12
Car ..		6
Car ..		6

Thursday, Aug. 29, 1929.

Cloudy and cool. On way to
Office mailed letter .10

Worked on plant & seed
collections in morning.
About 1 P.M. began to rain
again but stopped about
2 P.M.

Went out to Marryama
Park to collect seed of
Desmodium tabernaemontani.
under #1121.

Car fare - to Park & return .11

" " - Lunch .11

The plants of the above species
were in full bloom and
we were also able to obtain
a few ripe pods and several
full grown pods which
were turning yellow. About

The middle of Sept. there
should be plenty of seed.
The pods shatter rather
easily. The species is very
fertile as the stems
are full of flowers and
the stems lay flat on the
ground.

Just as we had about
finished the patch it began
to rain and we were
forced to go to a tea-house
for about half an hour
and then wait back to
the office where worked
on Hobbards plant notes.

Rained quite hard
during the evening.

Friday Aug. 30, 1929

Cool and cloudy. Rained a little in the morning. Worked some on green manure crops report for St. Pieters, went to office after lunch and talked with Dorsett with regard to the rest of the trip especially regarding soybean work.

Went about 3 P. M.

with Snyetake to look up soybean products. At one store they had gallon cans of pure soybean salad oil which sells for 4 yen per can. We visited another store and found soybean oil

sold in half gallon cans.
This oil is used for
a lighting oil and also
as a frying oil. In
Buddhist temples and
shrines where lights
are kept burning soybean
oil is used as it is a
safe and slow burning
oil. The oil is placed in
a dish and a wick made
of twisted grass is used.

At another store we
found gallon cans of
soybean oil (salad oil).
This oil is put out by the
Nisshin Oil Mills, Ltd.

Tokyo, Japan. A gallon
can sells for 3.60 yen.

We want to visit
Tofu factories and found
two which use much

larger than any we
have seen in Tokyo.
The first one visited had
only a woman attendant.
At the second we found
the owner who kindly
took us through and
explained the process
of tofu making. We were
told they started making
tofu at 3 A.M. and to
see the manufacture
we must come at this
time.

The beans used are
small yellow green
in Tohoku Province. From
4-5 bushels of beans are
used per day and often

special requests brings
the amount up to 7 or 8
bushels.

The beans are put to soak
at 5 P.M. the evening
before and are thoroughly
washed first. They are
left to soak until 3 A.M.
next morning. After
grinding ^{the soaked beans} for ^{the} time of
~~10 hours~~ ^{the} ~~crash~~ they are boiled
in a large iron kettle
for 20 minutes. After
soaking the beans are
ground finely by a
stone grinder driven
by mule. During the
grinding water constantly
drops in with the beans
as they are crushed.
Four different cloth
bags of different meshes

are used in straining
out the milk.

Magnesium sulfate
solution is used in
precipitating the proteins.
No information was
obtained as to the proper
amount of this precipitant
as the amount used
varies with the factory
and is regarded as a
secret formula.

At this factory, the curd
was also fried in deep
fat which is used in
surgas. Rather a strange
coincidence, at supper
tonight we had this
fried bean curd cubes.

in very small pieces
in our miso soup. It
reminded me somewhat
of crotons in soup. The
tofu used for frying
is pressed much tighter
than that used for
general use.

Also bought some
roasted soybeans
encased in rice dough,
which had been baked.

1/2 gall. soybean	
frying oil	1 20
1 pk. Soybeans roasted	50

Saturday, Aug. 31, 1929

Cool and raining.

Left Sapporo - 8.47 AM

Ar. Kotoni 8.59 AM

Soybeans -

All branches of the stations
grow soybeans but all varieties
grown throughout are grown
at Kotachi sta.

Soya Exp. Sta. -

Early varieties of soybeans.

Kamikawa - rice paddies

Dr. Abiko - Runt bull.

on soybeans -

Early varieties of soybeans.

Left Kotoni - 12.23

Ar. Kamugawa 12.34

Oil mill near Karuzawa.

This mill was said to have
saw bean oil but when we
visited the mill we found
that they only crushed flax-
seed, sesame, and mustard
seed. This seed is said to
be obtained from Utsunomiya. There
said to be no soy bean
oil mills in Utsunomiya.

Oil (soy bean) comes from
Daikoku and shipped to
distributors in Tokyo and
Osaka, and distributed in
cans to different parts of
Japanese Empire.

All Hokkaido beans are used
for making food products
such as miso, tofu, etc. Beans
are considered too valuable
for oil utilization.

Left Kariyama	3.40 P.M.
Rr. Jappono	4.05 P.M.
Jappono - Kotonu Britton	16
Kotonu - Kariyama	26

Brassica - obtain in 25
 25 % of the total wt of material
 Flax - obtain - 12 %
 Sesame. " 20 %

This will daily makes
 about 2500 lbs of Jap. mts. - Brassica
 2500 " " " - Flax.
 50 gals in a year. " - Sesame.

Flax and mustard
 grown about Kariyama.

Sesame seed from main
 island, Hondo, and made
 only on special order.

Soy bean seed in region
 about here sells for 20 per

Jun 6th.

The wife of the proprietor of the oil mill took us out to see the mill in operation, at the present they were grinding mustard seed and were running through a batch the second time.

Most of the oil had been pressed out the first pressing. The cakes were then put in a grinder, and under a a larger roller of two large stone wheels. After this the meal was put in a large pan and continually stirred while being heated. After reaching a certain degree of heat, the meal

was placed in tubs and
then placed over a
steam pipe. Steam was
let up through the bottom
of the tub and a cloth
placed over the tub, after
being steamed thoroly
the meat was placed in
storage cases, covered cloth
on top and a solid
piece of iron - the size
and shape of a medium
sized kettle placed on
top. Pressure was then
applied. It didn't
seem as though enough
oil was secured to
pay for the second
pressing.

The cake is then ground into meal which is sold for cattle feed or fertilizer.

We walked back to the station. I had now stopped running for the first time during the day.

Left Kivazana at 3.0X and arrived at Supporo about 4 P. M.

Worked on French report for Dr. Pieters until supper time

at the Kotonu Station we met Prof. **Abiko** Chief Plant Breeder who gave us considerable information concerning soybeans, botany, and other conditions in

Hokkaido, He also
promised us seed of
field peas, flax, barley,
wheat, and oats; He
advised that it was
difficult to ship peas
over to the main island
on account of the pea
weevil.

Other things that
might be of value for
introducing to the
States are -

Hortoni strawberry
Mallory varieties
Iris varieties.

The Hortoni strawberry
of which we saw a
preserved sample.

appears to be a fine
large berry and worthy
of trial in the U.S.

Dr. Tambo sugar beet
expert told us about
the green houses, and
showed us his sugar
beet seed selection of
which he has 1500.
One of his principal
problems is developing
strains resistant to
leaf spot disease. He
has developed one strain
entirely resistant
and about 50 strains
showing more or less
resistant.

We were given several
of the Station Bulls,
which are as follows.

Sunday, Sept. 1, 1929

Cool and clear. This is the first day that it has not rained. In the morning worked on green manure report for Dr. Pieters. After lunch at Ruby's Soda fountain went to office wrote up seed sample and saykhan products and over some official correspondence.

Later visited the fish and vegetable markets near the Giza. At fish market covers one block down and one way see all kinds of fish, salmon predominating. Saw a few small octopuses.

There were many containers
having salmon roe. We
had this for supper one
night, and apparently
the roe was raw and
it didn't appeal to us
very much.

At the vegetable market
which covered one side
of a block the following
vegetables were seen:

Radish - daikon

Cucumbers -

Lotus root -

Forced ciliary.

Small red yams.

Many tomatoes

Sweet corn

Lotus root

Edible Chrysanthemum fls.

Ginger shoots.

Egg plants - mostly very
small & very abundant.

Soybean - bunches of plants
with pods

White potatoes

Cabbage.

Monday - Sept. 2, 1929

Bright and clear. Slightly warmer than previous days. Went to office and looked over correspondence and wrote up notes.

In the afternoon went to Botanic Garden and skinned seed of *Aquilegia arctica*, several *Delphinium* spp., *Alnus japonica*, vis. podlyhock, and bulbs of *Fritillaria camtschatica*, and *Aconitum* spp. and about 50 roots of *Iris sibirica* var. *orientalis*.

I have noted that the seed of several iris species is ripening rather fast. Some time was spent in looking around to see

condition of plants and
seed desired.

after visit to Botanic
Garden went to room and
Mr. Sneydake translated
from Jpn. literature much
data on Hokkaido crops,
soybean and adzuki
bean experiments.

In the evening wrote
up itinerary and
the August expense account

Tuesday - Sept. 3, 1929.
Kotoni Exp. Sta.

Left - Lyons - 8.47 AM

arr. Kotoni 9.00 AM.

Grasses & Legumes for forage
on hay.

Small plots - 5' x 10'

Planted since 1927.

542 -	Timothy (glax)	x	1
537 -	Tall meadow (club grass)	x	2
633 -	Ky. Blue Grass.	x	3
496 -	" " "	x	4
4966 -	Meadow Grass.	x	5
535 -	Wood Meadow Grass.	x	6
4967	Water meadow grass.		
	Agrostis sp.		8
531	Creeping bent.		9
	R.D. Bent Grass.		10
	very poor.		
548	Holcus lanatus		11
4975	Creeping soft		12

	Italian rye grass	13
		14
7012	alfalfa - Chilean	15
7004	^{Henderson} northern green alfalfa	
7011	^{Hairy} ^{Henderson} Peruvian alfalfa	
7027	Provine alfalfa	
801	Crested Dogtail grass	
547		
7714	Perennial Rye grass	
4972		
845	Hungarian brome grass	
844	Brome grass	
486	Shenwood Brome grass	
538	Awoless Brome grass	
462		
544	Meadow fox Tail	
539	Perennial Ryegrass	
543	Churchard grass	
545	Tall meadow Cal Grass	
528	Tall meadow brome	

Brystake ————— 16
 16

527	- Meadow fescue	Poor
7711	- Wood mending grass	very poor.
—	- Fescue	P
523	Various hard fescue	P
596	Hard fescue.	
846	fescue	
7694	Milo maize.	
7838	alfalfa - Barbée	
7841	alfalfa - Tachikind	
7842	alfalfa	
7843	alfalfa Kiva	
7844	Turkistan alfalfa ^M	V.G.
7845	" "	S
6512	Extra Fancy "	V.G.
6511	Fancy green "	G
6731	Ontario ^{variegated} "	V.G.
6918	Hardigan alfalfa.	
6804	- Alsike clover - Illinois	G
6734	- Red Clover - Kurachina	P.

- 6804 Ladino clover very good -
- 7625 Locust.
- 6934 Serklover Red clover, Early
very prolific.
- 5481 - Harding grass only few
plants in plot.
-
-
- 551 Red clover
- 553 Alsike clover
- 4981 Hungarian clover.
- 7625 Locust
- 556 alfalfa.
- alfalfa - Sand lucerne good.
- Canadian alfalfa
- Russian .. ^{also Sand lucerne} irrigated fls.
- Spanish alfalfa
- 7070 Aragon Spanish alfalfa
- 7071 Moreshina alfalfa
- 7626 alfalfa - China.
- 7072 Spanish alfalfa

Lotus corniculatus - 15 in. - Very
upright and abundant growth

562 Brunet

7213 Albino Clover-

6936 French albino ^{Sweden V.P.}

1957 - Bush clover - Jesperdyo

8 ft. Excellent growth. In
full bloom. Some pods starting

Columbian alfalfa

Provence alfalfa

Arabian alfalfa G

Sutton's alfalfa G

Argentina alfalfa

597 Medium red clover. 30 in. - One
of best growths.

white clover.

Mammoth Clover.

7068 Spanish Red Clover

7208 Mammoth Clover.

7209	Med. red clover.		
551	Red clover		
7616	Triibolium Alexandrinum ^{Calif.}	Stamps	(80)
7307	Egyptian clover.		(81)
4981	Hungarian clover.		
6466	Yellow trefoil. ^{Denmark.}		(82)
6935	Funk clover - Sweden		(83)
6303	Yellow trefoil		84
6803	Ladino clover ^{Ohio}		85
7069	White clover - Spanish		
7304	White clover		88
7306	Sardine clover - France		(101)
7308	Yellow sun clover		
7077	Sun clover		
7025	Rochia Bellue clover ^{France}		
7029	Genistia — ^{France}		120
7027	Lotus corniculatus	V.C	122
7028	" "	G.G	
7077	Vulnaria		123
7839	Sainfoin		
70	Esparsette		132

7309	Common Sanfoin	
7310	Sanfoin	134
7212	Yellow sweet clover - end	118
7211	White sweet clover - ripe	
7210	Yellow sweet " aboretta - in full bloom	
68	White " "	113
6807	White " Hubam - Sweet ripe about 1' 10" high	
6935	Sweet clover - Sweden	
6917	Dwarf sweet clover	112
6806	Sweet clover	
6514	Fancy white ^{sweet} clover	110
6513	Extra fancy sweet clover	109
5715	Sweet clover	108
4989	White Melilot	107
6510	" White sweet clover	106
	Yellow Melilot	105
6732	White sweet - Canada	
6726	" " - Kansas	

7027	Busham seed clover	
	Almike clover	98
7062	Red clover Norway.	67
7061	" " Finland	66
7060	" " Finland	65
	" " gonkoki " " Finland.	64
7057	" " Finland	63
7056	" " Eskero	62
7055	" " Carmeshira Finland	

Hay plots -

Red clover & orchard grass.

Clover - 1 red

Clover - 2 red.

Orchard Grass.

Alfalfa -

Green Mammoth

6995 Red clover

plots 5x10

6977 Red clover.

English Red clover

7016 English Red clover

Mammoth Red clover.

Medium Red clover

- 7005 Mammot Clove
- 6987 Red Clove
- 7020 Villosin Red clove Poor
- 7021 " Kohlgras ^{Red clove} Good
- 7805 Red Crimson - Good growth
just coming in bloom.
- 7023 Crimson clove -
- 6981 " " "
- 7022 Crimson Scudlet - Earlier
than other Crimson Nbs.
- 6988 Aloha cl. Illusion
- 6377 *Acchinomene indica*
Spreading growth - ~~Just~~
abundant. May make a
good green manure crop.
Used for making Tea
- 6385 *Cassia mimisoides*
- Hyrigal growth. Fair growth
worthy of trial for green manure.
- 5800 Bur clove.

- 7009 New Era Company
- 7008 Blackeye "
- 4984 Yellow lupine. filled with
 seeds with seeds well
 seeds seed fully developed
- 4985 Blue lupine. 32 in. growth
 ex. growth. Seed fully developed
- 4983 White lupine. 42 in. Bud
 growth of lupines. Some in
 fl. and some with seed well
 developed.
- 5984 Geradilla - very good growth.
 Full of bloom & pods with
 seed fully developed.
- 6727 Dahlia - 42 in. high. Excellent
 growth. In some. Just
 commencing to bloom. Run
 20" yard - 1st to take
- 7586 Wood's clover
 Same as preceding.
- 7007 Japan clover - Leaves
 spreading growth.
 Quite abundant.

- 7587 Korean Peperdiza - Ex. growth
18 in. in rows. Very prominent
just in bud.
- 7031 Goat's Rue - Seed mature
Seed saved
- 551 Red clover.
- 6977 - " "
- 7006 Mammist Red
- 6934 Sercklover
White wild clover
- 6978 Red clover - English
- 6976 Red clover - Large A.

Soybean Varieties ^{Tachachi}
Standard Plot - Daiyachi #1. Seed
 as a check - 36 in. good producer.
Daiyachi - Pure ^{Tachachi} #8 selection
Daiyachi - Tachachi Br. Sta. #926
Daiyachi - " Br. Sta. #1400

- Rangoski - "3437 - fr. pink. Ex. seeder
- Rangoski - Tochiachi Field "6 - good
- Rangoski - Pure " " 7 - good
- Kennu ^{or Kenoski} - Hairless smooth variety
- "7840 - somewhat later than
- Daiyachi or Rangoski. Ex. good but
- not extra heavy seeder. Wrinkled
- leaves. Seed about 1/8 gm
- Wasehadaka - Smooth variety.
- main str. "64. Seed about full
- grown. Much earlier than Kenoski
- Judges more
- Akazaya - Tochiachi "2449. Rather
- coarse large leaves & stems.
- Seed 1/4 gm
- Akazaya - "1175B, very much
- like previous no.
- Akazaya ^C - "750 - much like previous
- Akazaya - 331-C - like preceding.
- Akazaya - "1009 " " "

Gindaidzu - Tochachi Br. Sta. "2048

Ex. grain. Seed $\frac{1}{8}$ grown.

Gindaidzu - V - "1240 - A. Ex. unit
like preceding.

Gindaidzu "V - 764 A. Ex. var
large growth. Seed $\frac{1}{8}$ grown.

Gindaidzu - V - 35 B - 4th. preceding.

Gindaidzu - V - 49 B

Chuseikurodaizu - Middle

crop large bl. grain. Tochachi
Br. Sta. "4. Lodges somewhat
very prolific. Tann. beginning & yellow.

Chuseikurodaizu "7846 -

Like preceding.

Chuseikurodaizu, Tochachi
field "3. Like preceding.

Kurodaizu - Black - Very Late
Tochachi "1877. Very good
growth.

Akakaikurodaizu - Oshima
Br. Sta, # 1936 - Seed $3\frac{1}{4}$ grown.
4 ft. growth.

Kurosaya - Black potted
variety.

Chashorn - Small brown seeded.
Jissin flower - Good tray or
green immature variety.

Shimoshirazu - Early variety
transited before frost. Yellow
leaves & beginning to fall. Good
for our north.

Wasehadaka - Early smooth
variety.

Chuseihadaka - Medium
maturing smooth variety.

Yoshiokadaizu - Selected &
developed by Mr. Yoshioka.
Leaves beginning to yellow they
produce large buds.

Shiroshoryu. White small
grain. Good seed & growth.
Daiyachi ² No 1. - Daiyachi
in name of place

Ishikarishiro - Ishikari
in Province of Hokkaido - This
variety called Ishikari White.
Coarse stems & leaves like Med. Gr.

Rangoshi - Coarse stem & leaves
Kanro - Good seed - supposed
to be sweet seeded. Large
seed & pods. Ex. variety.

Akazaya - Red-podded. Seed
1/5 grain. Large growth.

Sangokudaiju: 15 bu. yield &
acre. Large yielder. Ex. growth.

Seed 1/5 grain. Good growth. Ex. var.
Rather early.

Sunmoko - ~~Grain's~~ Large
grain & good. Looks like
an excellent variety. Flat
seed. Very promising.

Jindaizu - Silver soybean.
Excellent seed & growth. Seed
 $\frac{1}{8}$ growth. Late type.

Chuseikurodaizu - Large
grain variety. Middle
crop black. Line full green.
Excell. growth & seed.

Kurozaya - Black podded
Rather late.

Aodaizu - Green large
seeded - Excellent growth
& seed. Rather late.

Adzuki - Best varieties

Chagaranase - ^{Harvested} Brown podded
early variety - Reddish br seed.

Wasemaruba - ^{Harvested} Early round
leaf - Seed reddish br.

Mamiba - Round leaved
Beginning to mature

Takashiwase - ^{to}Takashi
name of people - ^{to}Takashi is
early. Pods immature
Leaves nearly all fallen

Uasedainagon - Early, large
seeded. Red seed. Excellent
large seed.

Kensakai - Meaning
sword like leaf. Very
peculiar shape leaf

Uasedainagon; Early -
Large grain.

Soybeans - Green Mamukanti.

Aodainagon - ^{to}1054 - Green large pod.
Very dark green leaves - Heavy
growth. Excellent in early

Seed 1055 - Very thin

Kuroganayaki - Black round -
15995 - lodging. large growth.
Very promising

Chasengokubachizirichigo -
Br. seed - 500 bushel - # 81
lodging. Excellent growth
Very promising. Not yet
in bloom.

Chasengokugunigo - Br. seed.
500 bush. - # 12. Very promising
for hay or green manure
Not in bloom.

Chasengokukyugo. Brown
seed - 500 bu. # 9. Not in bloom
Very promising for hay
or green manure.

Chashoryu: Brown tea color
small grain. # 3425. Just
coming in bloom.

The above 6 are grown for
green manure

The above varieties are grown
in duplicate - 1 set for the
green ^{& dry wt.} and the other for
yield of seed.

Puffed soybeans - The
beans are treated and the
product is like puffed
rice or wheat. This product
is made at Shizuoka
where many other soybean
products are made.

Ry fare to Kotani & return	16
" " " " " " " " Drayage	16

Left - Kotonin 4.31 PM
Ar. Sapporo 4.42 PM

Wednesday, Sept. 4, 1929.

To available marks — 11 etc
To seed form 1011

Awoke at 3.30 A. M. and
with Singstake & Dorsett to
go to paper factory.

When we arrived, we
found the men busily engaged
in making bean board. The
stone grinding machines
driven by electric power
were grinding the cooked
beans. The power was being
ground into a very fine
paste. During the grinding
a small stream of water
running from a small
tribe above the hopper ran
constantly into the beans
in the hopper, and the
ground material which
was very fine, made

with the water a thick
syrupy mass.

This material was then
taken to an iron tub
and a pint of water poured
in. This was then boiled
for about 10 mins. The
time of boiling depends
on the fire heat and the
size of the container and
amount of material.

When it boils up near
the end of the boiling
a small quantity of
mustard oil with some
kind of flour is mixed
in to keep the curd from
cooking quickly. This
liquid is then poured
through three cloth
strainers of different
meshes into a large

trib. A solution of Magnesium sulfate, about a quart to about 8 gal. of soybean milk, was added. This solution was cold when added. The Mgn. sulfate solution is made by dissolving Rock magnesium sulfate in water.

The solution is stirred slowly through the milk and this is done for about 10 min. and then the water is dipped off as much as possible from the top. The curd is then placed in a tray with

an extended top and
in which is a fine
mesh cheese cloth. After
the entire tub of curd
is placed in the tray, the
cheese cloth is drawn
over the top and a
board laid over the top
of the cloth. A stone
weight of 2 or 3 lbs is
placed on the board. After
about 10 min. a very
heavy stone is used. First
however, a piece of
bamboo matting is
placed over the top of the
cloth, the board put on
and then the heavy stone
of about 25 lbs placed
on. This is left for about
20 to 30 min. when the

When curd has reached
the proper consistency,
the block about ~~four~~
feet by 2 feet, is then
placed in a tank of
cold water.

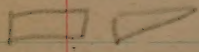
After standing in these
wooden tanks of cold water
the blocks which are about
1 in thick are cut into
blocks about 12 in. square
 $\frac{12}{12}$ $\frac{1}{2}$. The foot blocks are
then placed in another
tank.

About 5 P.M. the wife of the
proprietor began fixing
small pans (two) over fire
boxes for frying Tofu in
oil. The dark oil used the day
before was placed in one

pan and fresh mustard seed
oil placed in the other. The Tofu
blocks ($\frac{1}{2}$ lb.) were cut into
9 pieces (2 in. sq.) and then
each sq. was sliced in two
giving two pieces 2 in. sq.
and $\frac{1}{2}$ in. thick. Some of the
blocks were cut in two giving
a piece 3 in. by 6 by $\frac{1}{2}$ in. thick.
This Tofu used for frying
was pressed much more
firmly than that sold by
the house wife and sold in the
tubs of water by the bean curd
man. The fresh pieces of Tofu
were placed in pan no. 1
which was used to heat up
the Tofu and the oil not
brought to nearly as great
heat as pan. 2. After being
in pan. 1 for about 2 or 3
min. the cakes were placed

in pan two in which the oil
was about the same as for
frying doughnuts. The cakes
immediately began to puff
up and were constantly
turned over with chopsticks.
After reaching a tan brown
color, the top cakes were re-
moved to a drainage rack
and the swelling went down
as the cakes cooled.

The large cakes come
in rectangular shape and
others in triangular shape

 are only made
on special orders. The
small cakes sell for 1
sen each. We are each
given one of the small
cakes, trying but as it

Came from the oil. They gave
us a small dish of soy sauce
in which the cake was
dipped and then eaten.
We found them very
delicious. We also had a
drink of soybean milk
just before the mag. sulfate
solution was added, and
Dorsett said he found it
better than Hokkaido
milk.

Thursday - Sept. 5 1929.

Cool & Clear -

Left Sapporo 8.47 A.M.

Ar. Nopporo 9.22 A.M.

Ry-fare - to & from 3¢ .60 sur

Lft Nopporo 4.19 P.M.

Ar. Sapporo 4.52 P.M.

We left at 8.47 with
Suzutake for Nopporo to
to visit the forestry station
and botanize and collect
seed in the forestry
region.

Two of Dr. Ito's assistants
went with us and one of
the assistants of the station
went with us. We took a
trail up through the
forests and hills. We
found many plants and

obtained seeds of a number
of wild plants.

At the forestry station
Hely. They had an excellent
museum of woods, and
materials made from
woods. There was also
a collection of fungi,
mosses, butterflies, wood
insects, and herbarium
specimens.

On our way back to the
station it began to rain
and until we got to the
station we walked
through a drenching
rain storm and got
for our bodies we were
thoroughly soaked.

Friday. Sept. 6, 1929.

Cool and clear in the morn.
After breakfast went to
office and wrote up
notes on seed material
collected ~~same~~ forest
reservation near Nopporo.
Bought hat in dept. store
for 8.90 yen. Went to
Rutby's for lunch. In
the afternoon worked on
plant and seed material
collected yesterday.

Went back to dorm
after six and had
supper and bath.

Worked on writing
herbarium material
in note cards in the
evening.

Rained in the afternoon.

Saturday Sept. 7, 1929,

Cool and clear. In the morning went to office and worked on herbarium and seed counts for about 2 hours.

About 11 A.M. we were taken to the Maj. Memo. Bldg. in an auto as guest of Mr. Sato who has established a seed paper called the Hokkaido Seed World. Mr. Sato is known as the cottage king and has become independently wealthy and is now devoting his time to his seed Journal. Messrs. Dorsett, Suggetake, Sato, Sato, Sato

were present. After
having our picture
taken in front of the
Memorial Bldg. which
was erected as a
memorial of the visit
of the Emperor Meiji
to Hokkaido 40 years
ago, we were taken to
a dining room in
the Bldg. and served
a several course dinner
Bread and butter
Cream soup.

Fried Potatoes & boiled potato
Roast beef with carrots
and string beans.

Fried chicken with small
stuffed egg plant, red
cabbage salad & lettuce
Custard with ~~vanilla~~ sauce
Coffee, beer, cider.

After dinner we went
to a meeting room
exchanged thanks and
cards, and were taken
back in an auto to our
office.

After return to the
office I visited with
Mr. Ginn of the Yonisto
Seed Co. and also their
plant Breeder Mr.

We are concerned about
the pear grown in Hokkaido
and found that truly
one variety called the
"Hokkaido Aoterasaki"
is strictly a Hokkaido
variety. This is a light
green pear, white flowers
and *Pisum sativum*.

It is grown quite extensively in Hokkaido and is said to be the only one grown for seed purposes. Other varieties of garden peas and field peas are imported from England and Continental Europe.

"Aotenashi" is said to be a hardy variety and used for the pod and peas, as well as a field pea.

Green manure crops are not grown very much in Hokkaido. The two crops used to a limited extent are soybeans and spring vetch. Green manure

Crops are not used for
rice as such crops
produce too much growth
lengthen the season and
produce but little seed.
Fish meal and chemical
fertilizers are used
for fertilizing rice.

When vetch is used
as a green manure
crop, the seed is planted
between the grain
rows or potato rows
in June. In the grain
the vetch and soybeans
are planted when the
grain shows the head.
These green manure
crops are turned under
during October.

Corn is used for
silage to a considerable
extent. Dent corn of
the Golden Glow, Silver
King, and Mastodon
are grown mostly for
silage. Silage corn is
cut when the grain
is in the milk stage
but the opinion is
increasing that it should
be cut in the hard
dough stage.

No winter crops are
grown in Hobbsville.
Promise was made to
write Verbal to have
soil and samples of
grass to the Yamato
Seed Co. for experimental
purposes. One plant
out of this co.

is trying to develop
some field and garden
new varieties.

After conference did
up package of Black
lily bulbs. (*Tritilaria*
canadensis) and
sent under Parcel No.
38 to Ryerson, F.P.I.

Returned to Linn and
wrote letters to Joe
Mahoney and Lee.

Sunday, Sept. 8, 1929

Supporo, Japan.

In Nakajima Park Museum

Varieties of soybeans on
exhibit in Industrial Hall.

I - Daidzer - 1st grade -

2 - " - 3rd "

3 - " - 5th "

(Straw receptacle holds 16 kan
(160 lbs). 414,162 bags shipped
from Hokkaido in 1928.

II Akita soybeans.

1st - grade { 448,931 bags
3 - " { shipped in 1928
5 - " { from Hokkaido.

III - Tsurunoko (Large bean)

1 - grade { 54,854 bags shipped
3 - " { from Hokkaido
5 - " { in 1928.

IV Sodefuri soy bean

1 - grade } 332,294 bags shipped
3 - " } from Hokkaido
3 - " } in 1928

V Black soy beans

1 - grade } 80,749 bags
3 - " } shipped in 1920
5 - " } from Hokkaido

Field beans

1 - Kintoki (Scarlet beans)

1 - grade } 67,145 bags
3 - " } shipped in 1928
5 - " } from Hokkaido

2 - Chumagazura

1 - grade } 242,772 bags
3 - " } shipped in
5 - " } 1928

3 - Maganzura

1 - grade } 198,434
3 - " } bags shipped

3 - " / in 1928

Adzuki beans.

1- Dainagon-

1 - grade } 275,538 bags
3 - " } shipped in 1928
5 - " }

2- Adzuki beans

1 - grade } 332,294 bags
3 - " } shipped in 1928
5 - " } from Hokkaido

Daijuku - Large flat beans
Kidney shape

1 - grade } 51611 bags
3 - " } shipped
5 - " }

Utenshi - white bean
like navy bean

1 214,312 bags
3 shipped
5 in 1928

Shiromaruzura - white round

1 - grade } 12,719 bags

3 - " } shipped

5 - "

Green Pear

1 - grade

2 - " } 892,563 bags

3 - " } shipped

4 - "

5 - "

Boiled & More

Can only add three
hundred and fifty dollars
your account. Stop

Thomas not coming
Payson

June account - Sub-
voucher & described.

On the first floor of this
museum there were some
very excellent relief
maps of Hokkaido. There
were also models showing
the colonization of the
island from the beginning
of the land-forty years
ago to the present time.
Each model showed the
gradual clearing of
the land and the increase
of number of crops
year by year. It was a
very effective illustration
of the colonization of
virgin lands.

On the second floor of
the museum were shown
the products, industries
and trade of Hokkaido.
Notes were taken especially

on the report of different
grades and varieties of
soy beans, adzuki beans,
peas, and the most
important varieties of field
beans.

Dairy products were
shown in the form of
condensed and powdered
milk, and butter and
cheese.

A few meat products
in the form of ham, bacon
and sausage were shown.

Forestry had a very good
display of the most im-
portant kinds of woods
and some of the uses
made of these woods.

There was also a very

good exhibit of fish and
the methods of securing
them, and fish products.

The work of the dinner
wood carvers was shown
in abundance, as was
also wood carving of the
Japanese farmers during
their idle time in the winter.

Some very fine pottery
ware was also shown.

Went to office for short
time and then went
back to hotel and wrote
on official correspondence
also wrote on Hokkaido
Agricultural record of
plants and crops.

Monday, Sept. 9, 1929

Left Sapporo -	8.10 A.M.
Ar. Takikawa	9.54 A.M.
P.R. fare Sapporo -	4 66
Ex. ticket Sapporo to Takikawa	66
Lf. Takikawa	10 09
Ar. Wakkanai-machi	9 06

Cool and clear in the morning. Left on the 8 AM express for the Soga Express. Sta. at Wakabetsu.

The field scenes along the way were very interesting. Rice was observed all along the way until dark, about 6 P.M. Marine cove were noted such as clats, mottly crab, except where we got further north, much buckwheat (used

to make noodles), corn
except toward the north,
potatoes (many large
fields and extending
well along the river, and
nearly all fields badly
affected with blight. In
some areas adzuki
beans were being cut
or pulled. Soybeans
were noted here and
there but no extensive
fields. In the rice section
soybeans were planted
entirely around the
edges of the rice paddies.
But in some cases there
were no soybeans in
the rice paddies. In a
few sections about an
hour's run from Suifu
it looked as though

soybeans of the early
vegetable type were being
harvested, in these
same regions adzuki
beans were being pulled.
In the afternoon along
the valley, bunches of green
material were noticed
being hung on poles
~~up~~ and capped
with bunches
of rice straw.
Climbing close to one
of these, it was found
that the green material
was peppermint.

Wild grapes were
noticed all along the
line; in some places
being especially plentiful.

In one case we were able
to observe some bunches
which appeared of a deep
pink color, rather long
stem, small and
branched like the Delaware
Lotus on some railroad
section men were observed
cutting bunches of similar
bunches but purpler
black in color.

Goldenrod was noted
in abundance along
the way and apparently
2 or 3 species. A deep
lavender aster was also
noted. Considerable
numbers of Hydrangeas
with a pink flower
were noted.

There also was seen
in considerable

quantity a red elderberry
with pendent clusters
of berries in a loose
raceme and not flat
like our Amer. species.
These well fruited
were very beautiful and
would make a very showy
ornament.

As we proceeded farther
north, farming was
less and rather more
primitive. Much of
the land has not
entirely cleared. Crops
were growing among
tree stumps, many
of which were *pedis*
browed. On some

sections rice paddies
were being prepared.
The tree stumps were
being removed and
soil carried to fill
in and to make the
edges or sides of the paddies.
The farms were becoming
increasingly separated
and tree crops grown.
On the never developed
farms, oats, adzuki
beans, field beans, and
soybeans were raised.
Considerable trucking
was noted along the
way, especially as we
got farther north. Some
fields of this crop were
already being cut
and others in bloom,
yet many farm

animals were noted.
In all day's travel
not more than a
dozen cows were seen
and these near the first
part of the journey.
About 9 P.M. we saw a
factory said to own
by the Morinaga Candy
Co. in making condensed
milk. Two apiaries
were noted. Also two
what might be termed
small chicken farms.

Tues. Sept. 10. 1929.

Care home " " to Makubetsu
Lft. Wakkanai - Mashai 8.15 A.M.
Ar. Makubetsu. 8.45 A.M.

Sta. 45° N. Latitude. alt. 100
Sugar beets and flax are
the principal crops experimented
with, though several varieties
of peas, wheat, barley, oats,
and some vetch and field
beans.

Plant soybeans May 15.
Harvest " Sept. 15 - Oct. 1.
2 or 3 varieties tried
earliest - Wasahakaba (Ensoh)
non-frost - Shimoshiragi
late - Daioychi " 1.

Wasahakadaka though the
earliest not yields much.
Daioychi " 1 - yields more
and good for these northern

The Shimoshoragi is the best and has two strains - one with white flowers and one with lavender fls. These strains as yet, however, are not strictly pure. The red flower variety appears a little better than the white flowered strain. Seed of soybeans not grown very extensively in this section and not enough to ship out. Farmers used beans produced for themselves, making flour, miso, tofu, and natto for their own home use.

The only green variety grown and used for making soybean flour. Haseodaziki name of variety.

Yoshioka - variety - med. seed
Late " " large seed
Med. " " small

The above are light
greenish yellow (O.G.) to yellow.
Insects and diseases
are not troublesome
in this section but occasionally
a fungus disease is
found. Once in a while
affected by insects

Vary few *Lasquyresia*
glycinivorella which roots
and found here but some

Non-frost canities, yields
about 20 bns. per acre
with farmers and at the
station

Daiyachi variety yields

about 22 bu. per acre,

Earliest & smooth yields less than one-half of Daraychis variety.

Two varieties of smooth - one called early non hair and the smaller one - non hair.

These two varieties are said not to be affected with smutting. The early non-hair is not affected with the brain pod with which affect the hairy varieties.

Width of rows 50 cm.

Plant space . 20 cm. with two grains & till.

ground level cultivation and not ridged.

Time of cutting - when leaves are entirely fallen and pods & stems are entirely dry, that is about

two weeks after the lower
hair fallen.

Method of threshing, The
bundles of beans are beaten
out by beating the bundles
on mat or hard ground floor.

The stems after threshing are
chopped up and with the
pods are used for cattle feed.

Depth of planting - Seed planted
about 1 in. Holes made with
hoe.

Green manure in this
soya section are common
white and red clover. Soybeans
are not used.

Large growers used horse
drill to make rows and beans
dropped by hand and the

beans covered with seedling
harrow. Smaller farms use
hoe for making holes and
beans dropped and covered
at once.

Lilium arumacum and
Fritillaria canschaticensis occur
in this region.

Green manure

Vetch

Between rows of potatoes

Vetch sown 3rd of July
while potatoes sown May 15.

Sown on top of potato
ridges vetch sown 3rd July.
When red clover & vetch
are sown between grain
rows, sown July 7, when
the grain plants are about
two feet high.

Red clover and vetch
are turned under for

green manure about the
middle of Dec.

Mr. Komatsu is superintendent
of the Soya Exp. Sta.

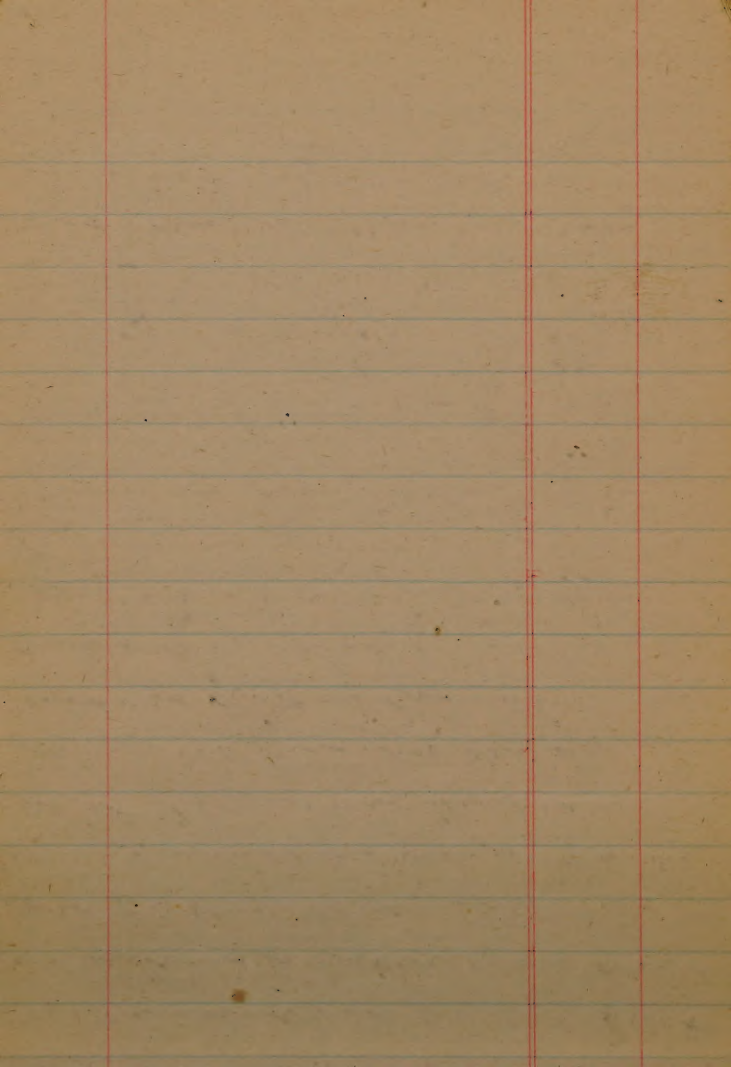
Photos were taken of the
red clover and spring vetch
sown between rows of oats,
barley, and potatoes for
green manure.

It was learned that Fozzy
is the name of the cranberry
like fruit which grows wild
extensively Saghalien Island.
It has small seed and is
red in color. It is used in
making ^{paste} ~~juice~~ and wine.

Arrived Wakkanai 5:45 P.M.

Soya Exp. Sta. is located at
Makubetsu two stations

from Wakkanaï. This station
about 8 yrs. old tests crops
in general but pays special
attention to sugar beets and
flax. Several varieties of
ryegrass are being grown
but the rabbits kept them
down so that the variety
test is a very poor showing,
none of the plants being
more than 10 in. high.



Wednesday, Sept. 11, 1929

Cool and clear
Left Nakkunai by boat 8.30 AM.
Ar. Udomari, Saghalien 4.30 PM.
Boat fare - Nakkunai to
Udomari, Saghalien Is. & return (3rd) \$ 5 00
Hotel Udomari at Udomari,
Saghalien Is. recommended by
manager of Hotel Kamuro,
Nakkunai, Hokkaido.

About 5 P.M. when our boat
docked. We were met in the
station by custom and secret
service official and had to
show our passports, as Udomari
is a port of entry from other
countries. Full information
was taken as to place of birth
etc. I had no passport but it
did not seem to delay matters.
The official had to telephone to
the head of the prefecture and

we were finally given permission
to remain. Spent one hour
in the immigration room.
Reached the Adomari hotel
about 6:10 and after bath and
supper, went out to look up
products made from Frepp
(*Vaccinium* sp.). We took a
walk up the main street
and in one place found a
store where Frepp paste
and candied Frepp berries
were made. This maker had
4 or 7 bushels of Frepp for
use in making Frepp
products.

We found that nearly all
stores had Frepp wine for
sale. also found many

place where Frepp pots
and candy (gum) were
sold.

While going along we
found a man roasting
green peas in a roaster
(turned by hand) similar
to our old peanut roaster.
The roaster was of thick
wrought iron and directly
over a charcoal fire. The
green peas were placed in
the roaster and then the
roaster turned for about
5 minutes. The peas when
heated cracked and popped
like popcorn popping but
were not split. After
removing from the roaster
salt water was poured
over the peas. While hot
the peas were very good

Eating. A good-sized hand-
ful was sold for five sek.

The streets about the village
were in horrible condition
as snow was being put
in, and the streets all
torn up for paving. Very
poor wooden sidewalks when
there were any.

Very cold in the evening.
Came to one section of the
village which is known as the
Korean quarter as there are
a large number of Koreans
living in Udomari.

Udomari is about $46\frac{1}{2}^{\circ}$
north latitude.

Hibachi yado good
when we returned

Thursday - Sept. 12, 1929.

Cold and clear. Arose about 6 A.M. Left about 7.50 by car to see places where Krupp was said to grow in abundance. About one mile from Turner Krupp, a small growing species of *Vaccinium*, (about 6 in high) was found growing in abundance. The berries were rather scarce for evidently the field or rather hillside had been picked over. We picked about 1 1/2 quarts and then spent about 2 hours in botanizing about the hillside and in the scrubby. We found

quite abundant plant
and seed material. Only
one red clover was found.
The hillside was fairly
moist and in the gulliga
part. There was considerable
clover growing about which
appears to be Alsike but
not quite as coarse as
alsike in the U.S. It was
about 12-24 in. high and
spread about very much.
Seed was collected & sent
Dr. Peters.

Lily of the valley was growing
in abundance, and the
plants nearly all brown. Some
seed balls were found and
picked.

A raspberry more like our
American raspberry than
any we have yet seen in
Japan was found.

About 9.30 A.M. we left
for the river and on the way
stopped and purchased
15 lb. of Krepp berries for the
sauce.

Then proceeded to inn
and settled our bills which
for one day was 4 yen.

At the ferry station news-
stands we found many
Krepp products -

Krepp wine

Krepp brandy

Candied Krepp berries

Krepp paste

Krepp syrup

Krepp jam

Krepp candy

Purchased a Pegasus egg
doll here. The Pegusins are
in abundance farther north
on this island.

While waiting for the boat
Dorset and I had a bowl
of buckwheat noodles - (greenish-
gray in color). A large bowl
of the noodles were dipped
in boiling water & heat them
up. Then a soy sauce
broth was poured over the
noodles. This bowl of noodles
which tasted very good
sold for 10 sen. Small
young onions sliced in very
small pieces were in ~~both~~
bowls on the counter. This
added to the flavor of

the crocodiles. Occasionally a customer was noted breaking a raw egg in the crocodiles.

Our secret service friend was on the boat and seemed very glad to see us. He told us to call him when we left. He remained with us until boat departure and through our interpreter advised us of agricultural conditions on Saghien Island.

The coyuncas are grown and not much farming is carried on. Forestry and fishing are the principal lines of industry. In the harbor, he pointed out a nice large looking boat and told us that it belonged to the Government Forestry Department. This boat was

looking after the fishing
and sealing occupations as
fisheries is handled by
the Forestry Department.

In our early morning
run we saw a few vegetable
crops such as potatoes (badly
hit by blight), early brass
cabbage, and corn.

Several fields of oats were
noted but yet green. On
our return we noted the
green oats being cut. The
~~secret~~ service man
advised us that the season
was rather short for
growing crops.

Left Udonarin at 11. A.M.

Our seed and herbaceous
plants were brought

aboard in furrows so after
getting aboard proceeded
to place the plants in
press and label the bags &
seed.

Arrived at Hakkanai
7.25 P.M. Hanno hotel
auto met us and we had
our old rooms back for the
night. Before supper we
took a walk about the village
(20,000 inhabitants) and saw
many very nice stores.
One large section appeared
quite new - new stores, houses
and inns. It was learned
that fire had swept over the
section and destroyed about
800 houses and stores.

It is apparent from the
vegetables at the stores that
trucking is not carried on

Murakawa

very extensively. Ofen
different kinds of beans,
tomatoes, corn, egg plant,
watermelon, vegetable melon,
onions, radish,

Fish and other sea products
are in great abundance,
Octopus, excellent and
abundant salmon, shell,
crabs (very large), clams
(very large), and many kinds
of small fish.

Wakkanai at the northern
most part of Hokkaido.

The Kamuro Inn at this place
is one of the best we have
stopped at since in Japan.

The room assigned to me had a bed in with springs. It could also be used as a Japanese room. The room was well furnished and had ample cupboard and drawer space.

When we arrived at the inn we were welcomed by the help, including 8 nescans. We were then shown our rooms. Then we got ready for the bath. As we undressed, the nescan stood by and carefully folded each piece and laid it in drawers or hung it on hangers. She carefully looked at my collar and socks and put them aside. Next morning I received them back as well as my handkerchiefs, washed & ironed.

It was then shown the bath
on the first floor. The bath boy
gave a more thorough
scrubbing than any bath I
have yet seen. After a bucket
or two of extremely hot water
over you, he motioned you to the
hot water tub and it was
sure hot. Then you got out
and with a clean wash cloth
he gave one's back, neck, and
arms a thorough scrubbing.
More hot water was dashed over
to wash the soap. He then took
cloth and all soap washed out and
rubbed over your back with clean
water. After this he gave you
the towel, soap and tub
of hot water for you to scrub
the rest of yourself. Then

You got in the tub and
soaked some more. Then he
gave you a wash basin of
clean hot water to wash
your face. After getting out
of the tub he got a clean
towel and dried your back.

When you were ready
to retire, the nesan arranged
your bed, drew back the
covers and after you got
in, she covered you and
tucked you in and then
Uyusamaman and
she left.

At this inn all of the
help looked after me
more than any inn I
have been in Japan. Every
want was attended to,
when one went out and
came back, always some

sweet cakes of some sort
or fruit and tea were
served you.

Friday Sept. 13, 1929

Cool and clear. Arose
about 6 and had
breakfast about 7.
Settled hotel bill.

Mon. night lodging.

Tues. breakfast. Supper lodging

Wed. breakfast

Thurs. supper, lodging

Friday, breakfast

Taxi fare Wakkanai .60

On leaving I was given
by the hotel a towel and
a handkerchief.

Left Wakkanai 8:15 P.M.

Ar. Asahigawa 5:39 P.M.

R.R. fare Wakkanai to

Asahigawa 3rd C. 3 56

In coming up to
Wakkanai, we came

up the west side so
to day we went down
the east side. Very
little agriculture has
being carried on. The
region was hilly and
mountainous, and
had been cut over and
much burned over. The
region was covered
with bamboo growth.
Much reforestation is
being carried on over
a very extensive area.
Pathways about 5 ft.
wide had been cut
through the bamboo
and young spruce
trees set out. Reforestation
has been going on for some

There for in some sections
the spruce trees were
12-15 feet high.

In the farming areas
potatoes were grown
very extensively, and for
the most part had
blight very badly. Adzuki
beans were also noted,
at Numakana well up north
evidences of a heavy frost
were seen as squash vines
were black.

Below Nayoro more cultivated
land was in evidence. Potatoes
and adzuki beans were noted
most. Going further south
we reached the valley where
rice was being very extensively
grown. Very few fields of
soybeans were noted. They
were, however, grown along

The edges of rice paddies. Corn was seen and occasionally soybeans were noted in the corn. At one place a farmer's wife was noted pulling bean plants and stripping the beans off. Apparently the beans were for green vegetable beans.

Along the rice paddies, the farmers had created long lines of poles in the irrigation ditches. Ropes connected the poles and bundles of rice were hung over the ropes. On some paddies the rice had been cut entirely; in others the plants had been cut but the bundles were arranged in shocks - 4 bundles to a shock with the rice heads down. The bundles were arranged thus to facilitate

The handling of the bundles
for carrying to the racks
for curing

Supper - 9/12/29 -

Kamodan.

Nakkanai, Hokkaido

Miso soup - pieces of vegetable melon

Fish soup - fish sausage, young
celery, mushrooms.

Uctomis - shic. fried and
with sauce & egg plant.

Sliced egg plant.

Beef steak & fried onions, ^{asparagus}

Sliced green onions.

Chopped meat (very fine) with
pieces of vegetable melon.

Raw fish (salmon and white)
with ground radish and
horseradish, garnished with
finely sliced udo.

Soy sauce for raw fish.

4

ハ"

トモ工

千葉

友枝

米國行

米國行

Sacred & Plant Materials
desired as Kanton's (to)
Adzuki beans.

Hokkaido Strawberry.

Flax - 3 sta. varieties

Oats - sta. varieties

Wheat - " " "

Barley - " " "

Rice - Water Rice

Dryland Rice

Field Peas - sta. varieties.

Mallow - kind of varieties

Soybean - varieties all

Potatoes - Mosaic resistant varieties

Sugar beet - Leaf spot resistant varieties

Buckwheat -

Cover Crops.

Reschonomene indica

Lupines - white, yellow, blue

Vetches -

Korean Lespedeza

米
國
行

一 二 三 四
五 六 七 八
九 十

doitashimashite
osomatsusamadeshite

米
國
行

Summer

legged carrots + potatoes

Fried prawn + mussels

Fried fish roe + butter bar

Raw fish + fish sausage garnished with seaweed, perilla + radish.

Fish soup with mushroom + forced celery

Pickled fish

Miso soup with small clams

Radish + cucumber with soy sauce

Rice + tea

Peaches

✓
Rice + tea
Boiled soybeans
Fried mussels with tomato
+ asparagus + banana fritter
Miso soup with spinach +
fried bean curd
Fish soup with fish sausage
prawn, mushroom + forced
celery
Cabbage salad.
2 kinds raw fish garnished
with udo, carrot horseradish
crown daisy and radish
Young preserved prawn
Watermelon

✓ 2 kinds Dinner

Raw fish - garnished
with carrot, cucumber,
crown daisy, radish,
Pickled eggplant

Soups with masoka

" with forced celery
fish, fish sausage
mushroom

Pickled, smoked fish

Boiled soy bean

Fried prawn

Apple, jelly, awabi

✓ Dinner

Pickled eggplant

Preserved fish

Two kinds raw fish - garnished
with perilla, carrot, radish &
horseradish

Miso soup

Fish soup

Sisoka

✓
Dinner.

Raw fish - Osakana - garnished
with chiconahai, fish sausage
crown daisy, carrot

Chawanmushi - Kudzuda - with ginger &
daikon

Fish - Osakana

Miso with chicken & spinach

Fish soup with forced celery
mushroom & meat ball
grapes

Breakfast

Soup with fish, bean vermicelli
and seaweed.

Soup with bean curd.

Broiled salmon

Rice and Curry (beef)

Pickled melon & radish

Lobster

Kishikake

✓ Dinner 7/21/29

Rice + tea

Raw fish garnished with
wds, carrot

Spinach (Horuso)

Pork - Potato salad +
tomato.

Cucumber

Pickled fish

Fish soup - bean curd + fish
sausage, Miso soup with
bamboo

✓ Breakfast

Broiled salmon with loquat

Pickled melon + radish

Omelette with peas, meat + other
vegetables

Soup, fish, bean curd, burdock
carrot bamboo radish

Miso soup with waconi (seed-weed)

Radish - takson

Thinly sliced cucumber with sea
weed + ginger

✓ Dinner 8/19/29

Rice

Tea

Raw fish garnished with
crown daisy, perilla, radish
raw cabbage

Sweet potato

Grilled salmon

Cabbage & onion

Tomato

Miso soup with egg plant

Fish soup with Mush-

rooms + fish + watermelon.

Breakfast 8/21/29

Thinly sliced cucumber with seaweed

" " onions

Soup miso - Preserved radish

with butter bar.
Bean curd soup - Pickled melon &

Fried eggs radish

Rice + Tea

Fish Mungo, garnished with
lime and ginger

✓ Dinner 8/18/29.

Tea

Rice

Young prawn

Green soybeans in pods

Creamed mussels with onion
peas + carrots

soup - miso soup with Irish
potatoes

soup - mushrooms - fish sausage

Raw fish & fish sausage

Sprinkled with udo & cucumber

Watermelon - slices

✓ Dinner Rudgeda

Raw fish Katsuo (Tuna) radish

small prawn - Rice + tea

Boiled soy beans - Watermelon

Fish soup with fish &
bean curd.

Soup with prawn, fish sausage
+ mushroom

Miso soup with potato

2 lunches

2 bottles cider

1 beer

Motion Pictures desired
in Hokkaido.

1. Cutting for seed.
2. Methods of threshing.
3. Field scenes.
4. Breeding variety scene
at stations.
5. Clearing scenes.
6. Storage scenes.
7. Method of planting.

- 18 - Methods of shipping
- 19 - Prices received by farmers
- 20 - Wholesale prices of
soybeans on market.

Soybeans in Hokkaido. 5

1. Acreage and production by counties
2. Time of planting
3. Method of planting; on ridges or not.
4. Width of rows
5. Rate of planting
6. Time of bloom.
7. Varieties grown.
8. Yields at stations
8. Yields with farmers
10. Time of harvest
11. When cut for seed
12. Trade in soybeans
13. Uses of soybeans
14. Methods of cutting
15. Methods of threshing
16. Methods of cleaning
17. Methods of storage
18. Exposed stations where soybeans are being grown.

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Imperial

Hotel.

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